



# **amateur radio**

Vol. 34, No. 8  
AUGUST  
1966

Registered at G.P.O., Melbourne, for  
transmission by post as a periodical

**25c**

## NEW VALVES

1A3	50c	5U4GB	\$1.45	6CW4	\$3.00	7L7	75c	866	\$2.50
1A5	5V4G	\$1.75	6F9	50c	7N7	75c	954	50c	
1A7GT	\$2.00	5Y4	\$1.35	6G6	75c	7W7	50c	955	50c
1C7	50c	5Y4	75c	6G6G	\$2.60	12A6	50c	956	50c
1D4	75c	5Z3	\$1.75	6H6 Metal	50c	12AH7	50c	958A	50c
1D6	75c	6A3	75c	6L6GT	\$1.00	12AT7	75c	1616	\$1.50
1F3	\$1.00	6A6	75c	6J6	\$1.00	12AU7	\$1.50	1625	50c
1H5	75c	6AH7	\$1.00	6K6	\$1.00	12AU7A	\$1.50	1626	50c
1K5	50c	6AC7	75c	6K7	\$1.00	12AV6	75c	1629	50c
1K7	50c	6AG3	50c	6K8GT	\$1.25	12B6	75c	3636	75c
1L4	50c	6AG7	\$1.25	6K8 Metal	\$2.00	12C8	50c	5703	\$2.80
1L5	\$1.00	6AL5	75c	6K9	75c	12D6	50c	5704	\$1.00
1L5	50c	6AK5	\$1.50	6N7	50c	12SA7GT	\$1.00	9004	50c
1M4	50c	6AL5	\$1.40	6R7	75c	12SC7	30c	EAS9	40c
1M5	50c	6AM5	\$1.50	6S3	75c	12SG7	75c	ECC33	\$2.00
1P5	50c	6AM6	\$1.00	6SA7	75c	12SK7	50c	EC-H33	75c
1Q5	50c	6AN7A	\$1.65	6SC7	75c	12SN7	75c	EC-H35	75c
1R5	\$1.00	6AR7GT	\$2.10	6SF3	75c	12SQ7	50c	EF39	50c
1S2	\$1.75	6ASTGT	\$2.00	6SH7	75c	12SH7	50c	EF96	\$1.85
1S5	\$1.60	6AUE	\$1.45	6SH7	30c	16A3	\$1.70	EY91	50c
1T4	\$1.00	6AUIA	\$2.40	6SJT	\$1.25	16A8	\$2.10	KT66	\$3.00
1U4	\$1.00	6AV6	\$1.40	6SK7GT	\$2.00	25L6	\$1.00	QJ203/12	\$4.75
1U3	\$1.60	6B6	75c	6SL7GT	\$1.25	25L6	\$1.00	QV04/7	\$2.50
2A3	75c	6BA6	\$1.55	6SN7GT	\$1.00	35L6GT	\$1.00	RL18	75c
2A7	75c	6B6	\$1.55	6SQ7GT	\$2.60	19	50c	UL41	\$1.00
2D21	\$1.20	6BL6	\$1.80	6SR7	75c	30	30c	UR33	50c
2E26	\$2.50	6B5B	\$1.25	6U5	\$1.65	47	50c	VR102	50c
2X3	75c	6B6	\$1.70	6U7	75c	57	50c	VR103	50c
3A4	\$2.20	6BF5	\$1.45	6V8	\$1.70	58	50c	VR135	50c
3A5	\$1.00	6BK6	\$1.45	6V8	\$1.14	80	\$1.70	VR136	50c
3G5	\$1.60	6BY7	\$1.45	6VGT	\$1.75	717A	75c	VR137	50c
3G6	\$1.00	6C26	\$1.60	6X4	\$1.00	807	\$2.75	VR140	\$1.25
3V4	\$1.30	6C6	50c	6X3	\$1.45	808	\$1.00	VT78 (6DE)	50c
5AR4	\$2.60	6C8	\$1.00	7A8	40c	859	\$2.00	VT127	50c
5AR4	\$1.45	6C97	\$1.55	7C3	50c	830A	\$1.50	VT501	75c
5R4G	\$3.75	6CH6	\$2.35	7C7	50c	832A	\$6.00	VU39A	50c
5T4	\$1.75	6CM5	\$2.25	7E6	50c	837	\$2.00		

## RECORDING TAPES

Well known makes. Brand new in cartons. Guaranteed.

150 ft. on 3 inch reel, Acetate	60c
225 ft. " 3 " " "	75c
300 ft. " 3 " " "	\$1.25
500 ft. " 3 " " "	\$1.65
600 ft. " 3 1/4 " " "	\$1.69
900 ft. " 5 " " "	\$1.75
1200 ft. " 5 " " "	\$1.85
1500 ft. " 5 1/4 " " "	\$2.25
1800 ft. " 5 " " "	\$2.50
2100 ft. " 5 " " "	\$2.55
2400 ft. " 5 1/4 " " "	\$2.75
2700 ft. " 7 " " "	\$2.75
3000 ft. " 7 " " "	\$2.75
3600 ft. " 7 " " "	\$2.75
4800 ft. " 7 " " "	\$2.75
5400 ft. " 7 " " "	\$2.75
6000 ft. " 7 " " "	\$2.75
7200 ft. " 7 " " "	\$2.75
8400 ft. " 7 " " "	\$2.75
9600 ft. " 7 " " "	\$2.75
10800 ft. " 7 " " "	\$2.75
12000 ft. " 7 " " "	\$2.75
13200 ft. " 7 " " "	\$2.75
14400 ft. " 7 " " "	\$2.75
15600 ft. " 7 " " "	\$2.75
16800 ft. " 7 " " "	\$2.75
18000 ft. " 7 " " "	\$2.75
19200 ft. " 7 " " "	\$2.75
20400 ft. " 7 " " "	\$2.75
21600 ft. " 7 " " "	\$2.75
22800 ft. " 7 " " "	\$2.75
24000 ft. " 7 " " "	\$2.75
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26400 ft. " 7 " " "	\$2.75
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45600 ft. " 7 " " "	\$2.75
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310800 ft. " 7 " " "	\$2.75
312000 ft.	

Empty Tape Reels	Plastic Storage Case and Empty Reel
3 inch	5 inch
3 1/4 "	5 "
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# "AMATEUR RADIO"

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA FOUNDED 1910

AUGUST 1966

Vol. 34, No. 8

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## FEDERAL COMMENT



One important characteristic of an Australian is his capacity for survival.

Self help is the most reliable kind of help. With it a natural flair for improvising, making use of available materials, can turn a failure into a victory.

There is a tendency for today's Australians to follow a world fashion which dictates—"Don't fix it. Get a new one." This may be all right while the supply of "new ones" continues, but for a long while there will be many times and places in Australia with no guaranteed supply.

Knowing how to fix it with laboratory equipment available is one thing. Doing it in the field on the ground under a tent, while it is raining maybe, is a totally different task.

Field days seem a long way off at this time of year, but need they be? Should they be?

A field day as well as being an interesting excursion has a serious background. It develops that essential "know-how" which can deal with emergencies under "far-from-laboratory" conditions.

Emergencies do not, as a rule, choose to occur under perfect weather conditions. Preparation months ahead is time well spent even for summer field days.

There is no better time to ask yourself the following question than before a field day: "If the rig fails while I am 'portable' have I any hope of fixing it, or will I just pack up the little black box and go home?"

Are you an independent or a dependant? How well are you equipped in the self-help department?

L. A. SEEDSMAN.

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# A Transistorised Amateur Band Receiver

PART ONE

HAROLD L. HEPBURN,\* VK3AFQ

## PROLOGUE

A few months ago the Moorabbin and District Radio Club felt that a constructional project should be undertaken as a means of providing additional interest for its members.

At a meeting held to discuss the proposition it was obvious that keen interest existed in such a project and that it should involve the use of transistors. Few club members had done any constructional work with semi-conductors so that a "transistorised" project would also have some additional educational benefits. Ideas as to what should be made were many and varied, just about every bit of equipment known to Hamdom being suggested at one stage or another.

After more discussion and consideration at committee level it was decided to build a communications receiver. It was realised that this would be a rather ambitious entry into the world of semi-conductors but in spite of the obvious problems involved it was felt that a transistorised receiver had several advantages.

(1) A receiver has a much wider appeal than other, less complex, equipment such as signal tracers, oscillators, etc.

(2) Club members have always been keen on 80 metre transmitter hunts but of recent years there has often been more spectators than hunters due to the lack of equipment suitable for mobile or portable use.

(3) A single band h.f. receiver would be a good basic unit from which, and by the addition of, say, converters, other h.f. and v.h.f. bands could be explored.

(4) Since a very large proportion of club members are also active in the Victorian W.I.C.E.N. organisation it was felt that a transistorised receiver would meet a long unfulfilled need for a very low drain unit. Since the major use for h.f. in Victoria has been "watch-keeping" a low drain receiver is obligatory.

(5) Since at least one club member had already built a prototype transistorised single band generator for the 3.5 Mc. band, the possibility, at a later stage, of combining the two into a complete portable transistorised rig was most attractive.

## RECEIVER SPECIFICATIONS

The general specification of the receiver as it finally emerged is as follows:—

1. Capable of operation on any d.c. supply between 14 volts and 9 volts, thus allowing either mobile or portable use.

2. Circuitry is floating with respect to d.c., thus allowing use in either positive or negative earthed vehicles.
3. Low current drain—30-35 mA. quiescent, rising to over 60 mA. at maximum audio.
4. 250/300 mW. output.
5. Sensitive and capable of excellent performance on a.m., s.s.b. or c.w.
6. Provision made for the later addition of a mechanical or ceramic filter if required.
7. Tunes either 3.5-4.1 mcs. or 2.5-4.1 mcs.
8. Capable of being used as a tuneable i.f. in conjunction with either h.f. or v.h.f. converters.
9. Contained in an all-metal cabinet 4 in. high by 10½ in. wide by 7½ in. deep. Only about half the internal volume of this case is used by the receiver so that there will be ample room at a later date to add converters, sideband generator or what have you.

of design more usual in Amateur circles. It meant that it should be possible for everyone to build to the same design in the same way and obtain the same result. Junk box parts (unless they fitted the component specification exactly) were not used and modifications to suit the bits and pieces that participants might have were ruled out. Pretty obviously if thirty people each wanted a different "mod" the organisers would have thirty sets of problems to iron out, not just one set!

To spread the cost of the finished unit it was designed and constructed in five sections. Each section was paid for, made and tested before the next stage was started.

The sections, in the order of construction, were:

1. Audio amplifier.
2. B.f.o. and cabinet.
3. I.f. strip, detectors and a.g.c. circuitry.
4. Local oscillator.
5. R.f. and mixer stages.

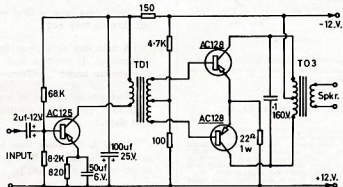


FIG. 1.

All resistors are ½ watt except where otherwise marked. The driver and output transformers specified are made by A. & R., while the condenser across the primary of the output transformer is a polyester type. The quiescent current of the unit is 3 mA. at 12 volts.

10. Calibrated dial and a double speed 6/1 or 36/1 reduction drive which has proved to be more than adequate for s.s.b. on the h.f. bands.
11. Uses 12 locally available transistors and three diodes.
12. Voltage regulation on all but the audio stages.
13. Centralised for simple stage by stage construction.
14. Uses parts freely obtainable in VK.

Since over thirty members were each interested in building a receiver the problems associated with large-scale production (such as parts procurement and reproducibility) were added to those encountered in the "one off" type

The cabinet was included in Stage 2 since the cost of the b.f.o. on its own was much lower than the other four sections.

The Moorabbin Club premises are not set up as a workshop capable of handling a large number of people so that a detailed set of instructions was prepared for each section and the actual constructional work was done by each participant in his own shack. This also avoided the problem of picking a series of constructional nights suitable to all participants.

At the start of the project three people—Neil Trainor (VK3ZRT), Bob Jordan (VK3AKJ) and the writer—each built a prototype and these early models used to develop the final cir-

\* Elizabeth St., East Brighton, Vic.



cuitry and layout and to iron out as many of the inevitable "bugs" as possible. The final design proved to be highly reproducible, well tamed and very effective.

Obviously no claims can be made for either technical originality or technical superiority, but at least it can be said that the finished receiver can be built by any VK enthusiast without solving the problem of getting those special parts called for by overseas designs.

It is perhaps unnecessary to add that any group or individual requiring further information is welcome to seek it through the Moorabbin Club or direct from the writer.

Cost—oh yes—about \$15.50 per stage if you exclude the filter.

## DESCRIPTION OF CIRCUIT

Normally an article such as this would have one large circuit diagram appended to it. This approach will not be followed in this series of articles for the very good reason that the individual sections have already been diagrammed for the instructional material issued and the writer was too darn lazy to draw it all again!

## THE AUDIO SECTION

The circuit for the audio end of the receiver is shown in Fig. 1. Audio input from the detectors is amplified by the AC125 stage which in turn is transformer coupled to the bases of the pair of AC128's class B output transistors. Output is about 250 mW. into either a 3.5 or 15 ohm speaker. The 0.1  $\mu$ F. 160 volt polyester condenser across the primary of the output transformer is included to reduce the high frequency response of the unit.

It is realised that two AC128's in class B fed from a 12 volt rail are capable of an output in excess of that obtained, but here—as in other parts of the circuit—preference has been given to reliability rather than trying to squeeze the last drop out of the components.

The audio section was built on a specially prepared circuit board 4 in. x 2½ in. and a layout diagram of this board is given in Fig. 2.

In the event that someone feels the printed circuit rules out having a try at this receiver—forget it. A "one off" can be made on "Veroboard" or even matrix board. It won't look quite as nice underneath of course but that may

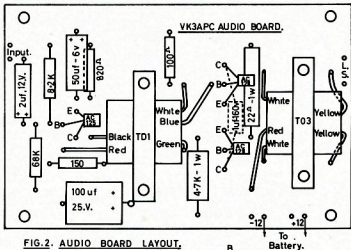


FIG. 2. AUDIO BOARD LAYOUT.



not be a real consideration. The original prototypes were built in this way and the use of boards only became feasible when a large number of people took part.

If you are interested in more details on the board—and for the boards to be described for later stages—they can be obtained by the simple process of asking!

## THE B.F.O. AND CASE

The b.f.o. was the second unit to be constructed in the project and included the 10½ in. x 4 in. x 7½ in. metal case used to house the completed receiver. The cabinets will not be described in detail here since other constructors may prefer to use what they have around. Anyone interested in exact duplication can—once again—get the information by asking.

The circuit of the b.f.o. is given in Fig. 3. An AF115N is used in a high C oscillator and a second AF115N used as a shunt fed buffer amplifier. This amplifier was included to isolate the varying load presented by the detector to the oscillator. Without the amplifier, strong s.s.b. signals were very distorted and almost unreadable.

An OAZ205 zener diode is used on the b.f.o. board to maintain the voltage applied to the collectors at a steady value (about 7.5 v., depending on the OAZ205 used) irrespective of the supply voltage and the variations in current drawn from the supply by the class B output stage. This regulated supply is also used to feed the r.f. and i.f. sections of the receiver. Thus all save the audio section has a stabilised supply—a strong contributing factor to the excellent stability of the finished receiver.

The two 0.0022  $\mu$ F. capacitors across L1 are silver mica, as is the 100 pF. padder used to reduce the capacitance swing of the 90 pF. Eddystone b.f.o. note condenser. Note that the tuner is bolted direct to the metal chassis and is isolated for d.c. from the board. No matter whether the positive or negative supply line is grounded to case r.f. continuity for the b.f.o. note condenser is provided by the 0.1  $\mu$ F. 25 v. capacitor across the supply rails of the b.f.o.

Adjustment of the b.f.o. will be described in a later article.

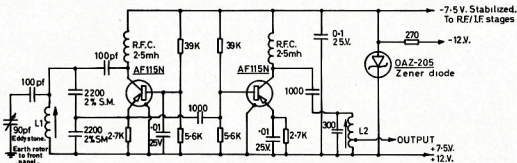


FIG. 3. VK3APC Receiver B.F.O. Unit.

All resistors are half watt types.

R.F.C.—Miniature 4-pole type, wound on ferrite core.

L1—45 turns of 36 s.w.g. on Ducon Q1 miniature pot core.  
L2—80 turns, tapped 26 turns from cold end, on a Ducon Q1 miniature pot core.

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V.S.W.R.: Less than 1.15:1 from 0 to 500 Mc. (50 ohm load).  
Isolation: Greater than 60 db. at 10 Mc. in DK60 and DK60-2C; greater than 100 db. from 0 to 500 Mc. in DK60-G and DK60-GAC when in energised position.  
Operating Time: Less than 30 milliseconds from application of coil voltage; less than 15 milliseconds between contacts.

Connections: Standard SO239 type v.h.f./U.H.F. Co-ax. Connectors. Available with Type N, BNC, TNC and C Connectors to order. \$4.16 extra.

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Type DK60-GAC, same as DK60-G but with external double-pole change-over contacts ..... \$16.17

**PRICES INCLUDE SALES TAX.** Not always available ex stock. Delivery 2-4 months between shipments. Orders on hand first delivery.

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SO239 Co-axial Sockets ..... \$0.90

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" " L734/S recessed co-ax. chassis socket ..... \$0.25

" " L734/J co-ax. cable socket ..... \$0.43

" " L412 Bulk-head cable socket ..... \$0.56

" " LE16 Coupling-couple ..... \$0.36

" " two L734/F plugs ..... \$0.53

PT181M (UR67) co-axial cable, per yd. \$0.35

RG58AU 50 ohm co-axial cable, per yd. \$0.35

PT191M (UR72) 72 ohm co-axial cable, per yd. \$0.35

PT11M 70 ohm co-axial cable, per yd. \$0.35

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Notes on Circuit Application of Geloso V.F.O. Units available upon request.

All Geloso V.F.O. Units are supplied complete with calibrated dial, pointer and perspex escutcheon.

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**WILLIS MEDIUM POWER TYPE**

For use up to 500 watts p.e.p. Match plate loads of 2,000 to 3,500 ohms (Z) and higher into co-axial cable. Operating Q increases on higher frequencies to increase harmonic suppression enabling practical values of tuning capacity to be used on 10 and 15 metres and allowing for greater inductance (L). Incorporates extra switch section for shunting additional capacity (C) if required, or switching other circuits. Switch rated for 10 amps. at 2,000 volts with contact resistance (R) of 0.8 milli-ohms.

Price: \$7.95 (inc. S.T.)

## WILLIS PI-COUPPLER CHOKE

To suit above PI-Coupler. No resonances within Amateur bands if spaced diameter or more from metal panels. Stands 8 inches high on 1 inch diam. ceramic former. Base mounting bracket included.

Price: \$2.50 (inc. S.T.)

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Type 4/111 for use with parallel tubes type 6148s, 807s, etc.  
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Type 817 condenser, suitable for use with input of all above PI-couplers. Rated 1,200 volts r.m.s., ceramic insulation, fit space 2 inches square by 2 1/4 inches deep. (Output condenser normal small two or three gang b.c. condenser.)

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1-16 1/8	16	3	No. 3003	62c
2-08 1/8	8	3	No. 3006	62c
2-16 1/8	16	3	No. 3007	62c
3-08 1/8	8	3	No. 3010	73c
3-16 1/8	16	3	No. 3011	73c
4-08 1/8	8	3	No. 3014	84c
4-16 1/8	16	3	No. 3015	84c
5-08 1/8	8	4	No. 3018	\$1.05
5-16 1/8	16	4	No. 3019	\$1.05
8-10 2	10	4	No. 3007	\$1.38

Special Antenna All-Band Tuner Inductance (equivalent to B. & W. No. 3907 7 in.)

7 in. length, 2 in. diameter, 10 turns per inch, \$2.45

References: A.R.R.L. Handbook, 1961; "QST", March 1959;

"Amateur Radio," Dec. 1959.

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Type 350A—Impedance ratio 1:1. 75 ohms unbalanced to 75 ohms balanced, 3 to 30 Mc. For use at centre of dipole antenna with co-axial cable feed line or at base end with 75 ohm twin line. Co-axial connector is Belling & Lee L804/S and lug terminals. Price \$3.77 (inc. S.T.)

Type 351A—Impedance ratio 1:4. 75 ohms unbalanced to 300 ohms balanced, 3 to 30 Mc. For use at centre of a folded dipole antenna with co-axial feed line or at base end with 300 ohm twin line connector and terminals as 350A. Price \$3.77 (inc. S.T.)

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# SOME THOUGHTS ON SIX METRE T.V.I.

ROY HARTKOPF,\* VK3ZOM

THE fall off in 6 metre activity since Channel 0 started has been so great that—for a large part of the time—the six metre band is virtually unused. This is bad from every standpoint, especially if one believes in the "use them or lose them" philosophy.

Shortage of time has prevented the writer building any two metre gear and so he has been on six metres quite regularly and the results of his experience may be of some help to others.

The very first thing is to go over to vertical polarisation. If you like to make a rotatable vertical ten element beam there is nothing against it, but the writer has found that a simple ground plane is surprisingly effective. It eliminates practically all flutter when talking to mobiles; over three DX seasons it has proved—as far as can be seen—as good as any other type of antenna; and finally it has the great advantage that one does not miss contacts, both calling and listening, because the beam is pointing in the wrong direction.

Fig. 1 shows the general construction of a ground plane which can be made in a few hours at the cost of a few shillings (cents to you). Try it. One does not have to have the radials sloping down and out at this peculiar angle, but the general idea is that being half way between a vertical dipole (70 ohms) and a ground plane (35 ohms) it should be a reasonably good match for a piece of 50 ohm co-axial cable. An additional bonus comes from the fact that when you go over to a ground plane you will find a marked reduction in any interference from Channel 0 in the six metre converter.

The second and obvious thing is to keep on the 53.032 Mc. a.m. net frequency or slightly higher, especially during the evenings. The extra megacycle separation makes a great difference to t.v.i. and has no appreciable effect on one's ability to make contacts. If not working on the net, choose a frequency within 100 kc. of the 53.032 net frequency. The reason for this is that an efficient high Q trap, when one has to fit it, has a very narrow bandwidth over which it is effective.

Thirdly, you will find there is a threshold power level of your transmitter above which t.v.i. becomes practically inevitable. This is normally somewhere in the region of 5-8 watts, a power when effectively used with a decent aerial is more than enough for normal local contacts. Look how effective the Pye Mark 1 Reporters are. Last summer the writer heard VK4ZLG mobile in the middle of Brisbane at RS 5 and 8. If you experiment with your own t.v. receiver, steadily reducing the transmitter power, you will find this "threshold" effect. A reduction of as little as ten per cent, will make the difference between no picture and practically negligible interference. As mentioned above, this maximum power

is something to be found by experiment. Mainly it seems to be governed by the aerial set up.

The above three suggestions are based on the assumption that the mechanical and electrical design of your transmitter is first class, which unfortunately is seldom the case. But here are a few things which can be checked and rectified with very little expense.

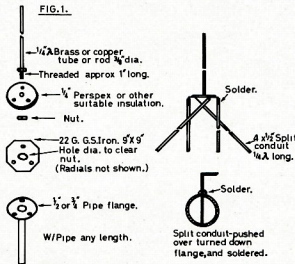
Make sure that as little radiation as possible is getting back into the mains either on the transmitting frequency or on any other. Don't take this for granted. If you do a thorough check round power points, etc., with a sensitive absorption meter with the transmitter working into a dummy load you will probably get a horrible shock. The

neater rig and things like cross-band working and tape recorders can be used without r.f. getting into every audio amplifier and creating a chorus of howls and squeals.

Much of the trouble with poor or unstable modulation at v.h.f. can be traced to r.f. getting into the audio circuits and overloading them. So for your own sake as well as for the prevention of t.v.i. make sure that the only r.f. radiation is that which comes from the aerial.

Even if you have done all these things you will, unless you are very lucky, still have a little t.v.i. to contend with. Begin by practising on the home set. Firstly make sure that the fine tuner covers the correct range. At

FIG. 1.



Co-ax cable fed up inside the tube support.  
Inner to 1/2" tube or rod and outer to radial plane.

writer has an old home-brew sig. gen., completely enclosed in an aluminium box with only the mains lead coming out. It is low power, using an acorn tube (855) as oscillator. Yet when this is switched on in the house, with output control at zero and not even the output lead in the socket, the little brute gives enough signal to overload the mobile receiver in the car in a tin-roofed garage down at the bottom of the yard!! The car receiver isn't even connected to the mains! Imagine what a crystal oscillator on 48 Mc. could do! One of the simplest and most efficient ways of eliminating mains trouble is to use feedthrough capacitors in all h.t. leads including heaters which go to any part of the transmitter, together with a small r.f. choke. In using multipliers avoid like the plague any frequencies which fall in the Channel 0 band.

In any case it does no harm to screen all transmitting equipment. One has a

one end you should be able to get the picture breaking up with sound bars appearing and at the other end you should lose the sound. In between these positions there should be one where the best picture and sound coincide with the least t.v.i. If the interference is still noticeable then is the time to fit a trap.

Fig. 2 shows details of a simple trap which the writer has found to be extremely effective. It is basically a simple series resonant circuit and in effect makes a short circuit across the t.v. set input at the transmitter frequency. The reason for the two capacitors can easily be connected to the terminals of the set along with the 300 ohm ribbon. No soldering is needed. Then, since the coil centre axis is parallel to the back of the set it is very easy to insert a tuning wand and watch the result at the same time. (During the adjustment the transmitter must of course be running with a

\* 34 Toolangi Rd., Alington, N.22, Vic.



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Responsible to an engineer to act as section leader on maintenance engineering aspects of Naval aircraft communication and navigation radio equipment and associated test equipment. Some development work is involved. Initiate and prepare technical orders and correspondence, progress investigations relating to defects, modifications, spares, etc.

##### **QUALIFICATIONS:**

Some theoretical training in Radio engineering. Considerable experience on the maintenance of aircraft communication and navigation radio systems and associated test equipment, and some knowledge of British and American procedures desirable. Ability to direct staff, prepare correspondence and reports.

**DUTIES:** Position No. 18.

Responsible to an engineer to act as section leader on maintenance engineering aspects of Naval Aircraft electrical and ignition systems including associated test equipment. Some developmental work is involved. Initiate and propose technical orders and correspondence, progress investigations relating to defects, modifications, spares, etc.

##### **QUALIFICATIONS:**

Some theoretical training in Electrical engineering. Considerable experience on the maintenance of aircraft electrical and ignition equipment together with associated testing facilities, and some knowledge of British and American procedures desirable. Ability to direct staff, prepare correspondence and reports.

**LOCATION:** of the above positions—

Initially in Melbourne but to transfer to Sydney in January, 1967. Transfer will be made to Sydney at departmental expense. An allowance will be payable to the successful applicant whilst located in Melbourne except for Melbourne applicants.

#### **TECHNICAL OFFICER, GRADE 2**

**SALARY:** \$3768-4072 (actual).

**DUTIES:** Position No. 50.

Responsible to a Senior Technical Officer for the provision of technical advice to all Contractors engaged in the servicing, repair and overhaul of aircraft radio and electronic equipment.

##### **QUALIFICATIONS:**

Sound basic training in radio and/or electronics. Wide experience in the maintenance of airborne radio systems, preferably in military aircraft. Ability to prepare reports and correspondence.

**LOCATION:** Sydney.

#### **APPLICATIONS**

To reach the Secretary, Department of the Navy, Canberra, A.C.T., by 5th August, 1966, preferably on forms obtainable from the following centres:

Canberra ..	.....	Telephone 65-3629
Sydney ..	.....	Telephone 35-0444, Ext. 495
Brisbane ..	.....	Telephone 31-1611
Melbourne ..	.....	Telephone 69-0440, Ext. 6712
Perth ....	.....	Telephone 39-1521
Adelaide ..	.....	Telephone 49-6123-5



tone or a tape recorder or a second operator providing normal modulation.)

For those who haven't a tuning wand it can be made by cementing a small dust core slug to one end of a plastic knitting needle and a piece of brass or copper about the same size to the other end. Wrap a little tape over them to prevent the metal touching the coil and make sure the wand is small enough to go inside the coil. The first time the writer tried this on a neighbour's t.v. set the results were amazing. As the tuning wand was poked slowly and carefully into the coil the interference disappeared so suddenly and completely that the writer thought for a moment that the transmitter had packed up!

You can't of course leave the tuning wand permanently in the coil but here again the design of the trap makes adjustment very easy. If inserted the dust core end clears up the interference then squeeze the coil together a little, and if the insertion of the metal slug clears it then pull the ends of the coil apart.

For preliminary adjustment of the trap either use a g.d.o. with the leads which one normally connected to the t.v. set shorted or connect a torch bulb between them and hold it near the tank coil of your transmitter and squeeze or open the coil until it resonates. Use a frequency ruler about the middle of the band (i.e. 53 Mc.).

Another thing which can sometimes be helpful in very strong signal areas is to put a couple of small carbon resistors in series with the antenna leads. This will attenuate both the signal and the interference and reduce the possibility of front end overloading in the receiver.

## PUBLIC RELATIONS

So much for the technical problems. There still remains what we could call the social, public relations and personal problems. In the writer's opinion these are far more important even than the technical ones and unfortunately receive the least attention.

Imagine you are on the air one evening and a neighbour whom you hardly know bangs on the front door and tells you he cannot hear his programme because of interference. Like most people he is probably a well meaning bloke who hasn't a clue about anything technical. He feels annoyed and at the same time embarrassed about coming round and complaining. To get enough moral courage to come and knock on the door he has probably had to work himself into a state of real or imaginary temper. How to deal with such a person?

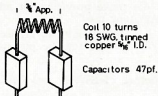
Don't start off by denying anything and, even worse, don't start apologising. Just be friendly and interested. Ask him how long it has been going on. If he has been a week or two working up enough courage to come and complain he will want to get it off his chest. So listen with sympathetic interest while he tells you how he missed the really good sexy bit of the review, and never found out who killed the blackmailer and missed the best part of the massacre in the Hollywood epic.

The longer he goes on talking the better and his relief at finding a sympathetic listener will make him feel so

much better that he will be prepared to co-operate to the full.

There was one classic instance of the effectiveness of this approach when one complainee, after sorrowing for ten minutes and basking in an atmosphere of sympathetic interest, finished up by saying "Of course it isn't really so bad and most of the programmes are so rotten it does not matter much if we do miss a bit."

When he has completely finished you can start asking him questions. Has he got an outside aerial and has it been put up by a qualified serviceman. If he hasn't tell him that the radio inspectors will have nothing to do with any installation which is not up to standard and in the same breath say that you have—being interested in radio—designed some special traps which will probably clear up the interference in spite of the sub-standard installation. (It is of course more tactful to use the words "indoor aerial.") When you go



down to fit the trap try moving the lead and the aerial. You will sometimes find that a few inches will make all the difference. Show him how critical this kind of set-up is, explain how dicey the television wavelengths are, and without being offensive, always make it clear that it is his installation not yours which is faulty.

If he has an outside aerial then ask him if the set has had Channel 0 fitted by a qualified serviceman. If the answer is no, then repeat the routine above with suitable variations.

If from his answers it seems that everything is in first-class order then tell him about the trap and arrange to go down and fit one. Before doing so, however, see that his aerial looks O.K. and is pointing to the television station and not in the wrong direction. Also check the socket and see that one lead of the ribbon is not hanging loose, a very frequent occurrence. Then fit the trap and unless you are very unlucky the troubles will be over.

Occasionally, however, you may come across a real no-hoper. There are two kinds of no-hopers, human and electronic, and the method of dealing with them is the same in both cases. Get in touch with the radio inspector.

From the writer's personal experience it would be hard to find anyone more helpful, sympathetic and co-operative than the average radio inspector. In addition, he has had more experience in all kinds of interference than anyone else and has all kinds of unexpected clues and answers. One no-hoper (electronic, not human) problem, where the fitting of a trap eliminated Channel 0 interference but broke up Channel 2 (apparently because of tuner instability), was very neatly solved by the R.I. bringing a television

set which he carried in the car, into the house and showing the people that it would receive perfect, interference-free pictures on all channels, using the same aerial and power point.

Another case, where interference complaints came from a person several streets away, the trap removed the interference and a fair amount of Channel 0 as well. It was obvious that the front end r.f. stage was tuned to the Amateur band or higher.

Again the person was politely but firmly told by the R.I. that the receiver was responsible and should be attended to.

Human beings tend to accept and hold illusions just because they are too lazy to think for themselves. One of the most widespread of these illusions is that the majority are always right. Actually if we look at history we will find that progress has been achieved by the minority of great saints, prophets and martyrs with the majority dragging along reluctantly like Paddy's goat; and only moving of their own accord when things get so desperate (through their own laziness) that they have to do something.

One could enlarge on this theme indefinitely but the point is that, because a thousand people watch witless cowboy films and gangster thrillers and only one person runs an Amateur transmitter, that fact does not make a thousand right and the lone Amateur wrong. In the writer's opinion there is far too much apologetic talk among Amateurs about service to the community, as though they had to justify their existence. Has anyone thought of asking the square-eyed tele-addicts to justify their existence. They would be hard put to do it!

The average Amateur might not be a budding Marconi, but the very fact of using, operating, and (we hope) constructing radio gear means he is learning, without expense to the community, skills without which a modern society could not exist and without which the majority would not have any thrillers to look at.

A little pep talk along these lines, tactfully put over while one is curing t.v.i. does no harm at all, and one sign that it has been effective is when the people offer to pay for the time and cost of fitting the trap. It is very bad policy to accept anything, but the offer does at least show that the assistance has not just been taken for granted.

One final word of warning. Do not ever let your enthusiasm get the better of you to the extent of offering to do anything to the t.v. set. Do not ever even take the back off. If you can and do fix anything your efforts will be taken for granted and if anything goes wrong with the set for the next five years you will be blamed. On the other hand, if the people show any interest in Amateur activities by all means invite them to see your shack and say a few words over the air.

Curing t.v.i. is not necessarily a chore. It is another aspect of Amateur Radio and one in which it is still possible to make new and interesting discoveries. In fact, this and the u.h.f. bands offer perhaps the best opportunities for the pioneering Amateur of today. So good luck and see you on six.



# SIDEBAND TOPICS

## COST STRUCTURE OF IMPORTED S.S.B. TRANSCEIVERS

Recently, most American Amateur equipment has been increased in price. The SWAN SW350 and GALAXY V. Transceivers, without accessories, now cost U.S.\$420 in the U.S.A. Adding freight, insurance and handling overheads, this equals an even \$400 in Australian money. Disregarding local import duties, this comes to \$450 after adding the inevitable 12½ per cent. sales tax.

However, we have to allow for the 45% import duties on the importers' net cost. In the past I have tried hard to get admission of strictly Amateur gear under By-law (reduced or no import duties) provisions, but without luck. Here are some extracts from letters received from the Commonwealth Department of Customs and Excise:

"The Customs Tariff does not make provision for admission under By-law to single side-band Transceivers when for Amateur use."

"In respect of such goods for commercial use, Transceivers are available from . . . (names of Australian manufacturers) . . . and for the purpose of By-law administration, suitably equivalent to imported units."

In future, therefore, the cost structure of SWAN and GALAXY Transceivers, in round figures, will be:

U.S. dollar retail price .....	\$420
30% discount, <b>only</b> on large orders .....	126
	<hr/>
	\$294
45% import duties (add packing cost) .....	133
12½% S.T. on landed cost, plus 20% .....	64
Approximate freight, insurance, etc. ....	19
	<hr/>
Total landed cost in U.S. dollars .....	\$510
	<hr/>
Approximate Australian money equivalent .....	\$460

If sold for much under \$580, the Australian importers will have less than 20% **gross** profit mark-up to cover all their expenses, risk, warranty liabilities, etc. Few can be expected to do that.

It should be clear what real bargains Australian Amateurs have been enjoying. I shall continue to sell my present stock at the old prices, see April and May 1966 advertisements in "Amateur Radio," but when new supplies arrive the prices will have to go up. I maintain stocks of:

- ★ SWAN SW350 latest model Transceivers.
- ★ GALAXY V. Transceivers, with the best receiver of the lot.
- ★ HY-GAIN multiband verticals and 3-band Yagi Beams.
- ★ Co-axial Baluns.
- ★ C.D.R. and ALLIANCE Antenna Rotators.
- ★ WEBSTER Bandspanner all-band Mobile Whips.
- ★ Heavy duty A.C. Power Supply Speaker Units.
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- ★ AUTRONIC Transistorised Automatic Keyers.
- ★ Crystal Filters, Verniers, Trimmers, etc., for the home-builder.

—Arie Bles.

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# SIDE BAND

Sub-Editor: PHIL WILLIAMS, VK6NN

## CRYSTAL FILTERS FOR S.S.B.

It is apparent that the crystal filter will become the "work-horse" of commercial single-sideband during the early 1970's when many point-to-point and mobile h.f. services will be changing over to this mode of transmission. This is not to discount the widely used mechanical filters, mostly manufactured for the popular i.f. frequency of 455 kcs., and also on certain lower frequencies. Where equipment is to be kept simple, cheap, and free from the problem introduced by multiple mixing (such as the elimination of unwanted frequencies) the h.f. crystal filter in the 4 to 10 Mcs. frequency range, comes into its own.

Many Amateurs with patience, ingenuity and a certain amount of good fortune have been able to produce very good crystal filters in the 400 to 500 kcs. range using surplus type FT241 crystals, and in the h.f. range using FT243 type crystals. Although this is not a "how-to-make-one" article, you are referred to back copies of "A.H." and the article in "QST" of October 1960, by D. J. Healey W3HEC. Just remember that any design using a high impedance filter terminator, e.g. a low C tuned circuit, should be suspect. David Robertson VK5RN/W2 went to the trouble to optimise the FT243, 2-half-lattice filter design by digital-computer studies, and his results were published in "QST" of July, 1964, p. 58. The curves he gives are worth studying as they could save a number of your "experimental" crystals. The use of plated surplus crystals should be avoided as the pole-zero frequency spacing is usually excessive, being about 5 kcs. or more. An exception to this statement is the special list of filter crystals marketed by the International Crystal Co. in U.S.A.—the crystals are specially made.

## COMMERCIALLY MADE FILTERS

The following is a general discussion of a few of the "facts of life" about filters.

H.F. crystal filters are relatively new to come on the market in countries other than U.S.A., and even there, up until two or three years ago, were produced by only a few specialist firms. Now we hear of British, German, Japanese, Canadian, Russian and Australian firms about to produce reasonably priced s.s.b. filters in the 2 to 3 kcs. bandwidth class. These filters are usually of two grades, the 4-crystal filter having spurious "pop-ups" about 45 db. below maximum in-band response, and 6 (or 8) crystal filters in which the "pop-ups" are better than 60 db. down, and the shape factor slightly better (steeper sides). My experience has been that the former (cheaper) type is quite adequate for

transmitting duty with some treatment of the audio amplifier to reduce response below 300 cycles and above 3 kcs. They are also quite good enough for v.h.f. s.s.b. on 6 or 2 metres, where the band is megacycles wide, but for receiving or transceiving in your home station, the better filter will be justified for removal of strong signals on adjacent channels when you are struggling with "strength 2" DX stations.

Where separate filters are used for selecting upper or lower sideband, these may be asymmetrical filters having a steeper slope adjacent to the carrier crystal and the pop-ups, too, are lower on this side. The majority of filters made for the Amateur are symmetrical, and are supplied with upper and lower sideband crystals.

Since the manufacturer has to do quite an amount of development on each filter and then spend money tooling up and providing a test line, you are well advised to buy his standard filter. If you ask for another type on another frequency just to suit some surplus mixing crystals you have, you will be surprised at the price quoted, to say the least. You will get the same answer if you demand an "obsolete" type, too.

It is fortunate that the narrow band filters having a bandwidth of about 13 times the "pole-zero" spacing are the easiest and cheapest to produce.

Expressing the bandwidth as a percentage of the centre frequency we can roughly divide filters into the following classes:—

1. 0.005 to 0.3% bandwidth—relatively cheap and easy to make—includes Amateur 5 and 9 Mcs. types.
2. 2 to 10% bandwidth—so-called "wide-band" filters. These use inductances in special designs to broaden the pass-band, and designs are more complex.
3. 0.3 to 2% bandwidth—i.e. quasi-wideband filters. These are neither type 1 nor 2 and require quite a lot of design and development, resulting in a high-cost filter.
4. Non-standard configurations, such as steep cut-off on one side, special slope characteristics, delay and phase compensation and other special features. Cost will be high depending on stringency of specification, but equipment manufacturers can frequently obtain reasonable quotations for quantity production.

There are no standards either of the commercial or military variety for filters as yet, so you just have to trust the maker and go by his past record of production of acceptable filters—his published data and instructions as to how to use the filter, for optimum results.

One cannot expect fast delivery of special filters because of the relatively

slow ageing of the filter crystals. Several months is quite usual from a factory almost next door.

Delivery of standard filters already on the shelf, is, of course, ex-stock.

In general the cost of filters of the standard variety is dependent on the number of sections. The 3 section (6-crystal) filter is about 50% more costly than the 2 section (4-crystal).

The variables which must be specified when a manufacturer orders a filter, are:—

- Termination.
- Operating level.
- Input power.
- Attenuation.
- Centre frequency.
- Spurious responses.
- Type of response.
- Environment,
- and tolerances on the above.

For Amateur application temperature tolerance is not of any consequence, where a 50-cycle frequency change is typical of 9 Mcs. over a 10 to 50°C. temperature range. A specification of—say 50 to +100°C., can give a frequency change ten times the above figure, and this is another story.

Termination of a filter is usually related to its natural impedance and is usually specified by the maker. The circuit designer must meet this requirement in his own way (many "equivalent" circuits are permissible), if the termination is not already sealed into the filter case. Low frequency filter crystals are better for "temperature range," and high frequency crystals for "vibration." While these do not worry Amateurs, some compromise will be necessary for a commercial or military design. Overdrive can frequently damage filters and degrade performance. An input of 10 milliwatts is a typical upper limit. Isolation from d.c. is essential, and goes without saying more.

Filter tolerances should not be tighter than required as this may reduce the yield of crystals from a production run making the cost of the system quite prohibitive. Many filters are specified on a c.w. response curve basis, but the user should remember that few of them work under this condition and therefore transient response is all important. For the Amateur this means that the speech must "sound" right. I consider this to be a defect in the performance of the usual mechanical filter—but these still have other desirable attributes for purely "communications" quality.

The low loss of the crystal filter makes it desirable for Amateur use. When comparing loss figures, however, the basis on which these were taken should be considered, e.g. was the db. loss a power loss, or a voltage transmission loss when correctly terminated? I trust this long list of considerations does not deter any Amateur from using up that stack of FT243 crystals and the jar of ammonium bi-fluoride (slowly eating its way through the bottle) on top of the cupboard in the shack. With care you will produce an acceptable filter.

73 for now, Phil 5NN.  
N.B.: That old sidebander south of Perth, Bob VK6RG had his 66th birthday on the 6th day of the 6th month of 1966. Congrats, Bob!

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1st/2nd October: VK/ZL/Oceania DX  
Contest (Phone).  
8th/9th October: VK/ZL/Oceania DX  
Contest (c.w.).  
15th/16th October: R.S.G.B. 21/28 Mcs.  
Telephony Contest.  
29th/30th October: R.S.G.B. 7 Mcs. DX  
Contest (Phone).  
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11th/12th February: John Moyle Memo-  
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Phone 96-5342

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## VK4AT MIGHT GO ON THE AIR

**G**ETTING on the air! There's really nothing to it. I am already pawing the air. Everyone around here is exhausted, but not me.

I admit that my five passes in the A.O.C.P. exam. (not all at once) really shook me. No old war horse was faster off the mark. A power supply was acquired by ballot—sight unseen. It was advertised as a Minor Supply, but it would surely be big enough for a v.f.o.

My complacency was shattered somewhat when two big men successfully delivered it. Evidently they sold these things by the cwt. Its brand disturbed me not at all—R.A.A.F. Minor Unit No., etc. The sight of two 807s clearly indicated that the transmitter was still stuck on it.

There was no evident provision for the aerial lead on the relay and voltage regulating two 807s with a single 105/30 V.R. tube was a stunt that had escaped my notice in the past. However, the 5Y3 circuit was okay and a couple of 866s looked good. Now, on occasion I have myself depicted electrical currents flowing in paths not usually followed by them, but I needed no circuit now to show me similar phenomena.

Additional to the above were two manually operated resistor gadgets that allegedly raised the voltage as further resistors were introduced into the circuit. Poor Mr. Ohm! At such a sight I was pleased to note that my state of learning had reached such a level that I could effortlessly assume that air of horrified nonchalance sacred to the ranks of our older and very superior Hams.

On reflection I reverted to my former status and took the whole works into our Gypmie Lecturer, Eric VK4XR. His verdict: I was to rip all gadgets and surplus bits out, change the bias wiring into a plus supply, replace the

former 20 watt 1500 ohm bleeder with a larger one (the present one measures 7 inches by 1 inch diam.) and change it from cap. to choke input. I was to leave the 500v. per side circuit as was, and was not to put my finger—**There, there and there** when the power was on!

In addition, if on adding the power the valves lighted up brilliantly and then went out, I was to re-check the wiring. If the switchboard fuse went it indicated a supply fused wired out. If no fuse went and the Supply started to smoke it only meant that I had bypassed all the fuses. On my departure with the precious Power Supply, he could not have been more warm in his way even if he had never expected to see me again.

I just had all the surplus bits ripped out when Barry 4LN arrived. He said that the local Radio Club was so short of active members that they couldn't afford the numbers to lessen, but I could hand him the side cutters and the pliers and he was going to take the Power Supply home with him when he left. I reminded him that I was already teaching a chap from a neighboring town who worked in the S.E.A. Barry 4LN was unimpressed but observed that as they were already short handed in the S.E.A. it would be a good idea to bring him along too, on my next visit to the Power Supply. This I did.

Now, 4LN tosses components around as though he were playing with his grandchildren, but on the first move from one of us he would yell, "Don't touch it—**There, there and there!**" He enquired if we both understood Relys. I could confidently answer in the affirmative. They were those things that made a chattering noise as you hooked the leads on the right terminals, but the chattering noise was not made

by them if you made a mistake and selected the wrong terminals. So now I am to have relays on my Power Supply . . .

As soon as I finish the last half of this little book that I'm currently reading (a translation of Albert Einstein's *Relativity—The General and Special Theory* 15th Edition 1954) I intend to hook on the said Power Supply to my \$10 Command Transmitter, take a tranquiliser and switch on! I understand that spits, sparks and sniffs don't worry you then.

—A. J. C. Thompson, Skyrings Creek, Pomona, Qld.

★

## Father Xmas, Fairy Godmothers and all

Has anyone ever telephoned you to ask whether you would like a transmitter and receiver covering the 3.5, 7, 14 and 21 Mc. bands which could be used on c.w., a.m., s.s.b. and r.t.y.?

Probably not, and it had certainly never happened to the Hon. Secretary of the Royal Signals Amateur Radio Society before. The caller was the society's president breaking the news that the Marconi Company were to present the society with a complete D11/R234 Installation.

Whilst many members of the Signal Corps will be familiar with the D11 a brief description for the benefit of readers will not be amiss.

The transmitter known by makers' designation as the type HS7, covers from 2 to 22 Mcs. and has a P.E.P. of s.s.b. of 350 watts.

The frequency range is covered in a series of 1 Kc. steps, the frequency being set on a series of decade switches and a phase locked oscillator locked to the synthesiser to give the required frequency. Once set a maximum drift of one-third of a cycle is claimed. The transmitter has a CRO built into it for radiation monitoring. Audio test oscillators are built in to give the standard two-tone test for linearity.

Apart from s.s.b. the transmitter can be used for c.w., a.m. and f.s.k., the latter with three shift frequencies.

The accompanying receiver, the R234 or makers' designation H28, covers 2-28 Mcs. continuously. It was built in 100 and 10 Mcs. calibration oscillators. When the received signal has a carrier, automatic frequency control compensates for any drift.

The operators at G3CIC, still slightly staggered by this magnificent gift, are busy familiarising themselves with the equipment which will certainly be fully used in the months to come.

Who said there was no Father Xmas?

—VK2ZVC. With acknowledgment to "The Wire" (The Royal Signals Magazine).



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## Book Review

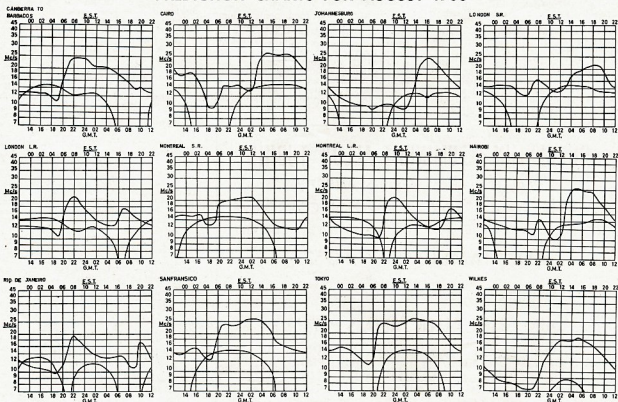
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This book is fast becoming an essential requirement for the serious short-wave listener. The 20th edition continues the high standard of its predecessors. All the usual sections have been brought up to date, and several new features have been added. Perhaps the best way to illustrate the comprehensive coverage of the short-wave spectrum that this book provides is to list some of the section headings, such as Call-sign Allocations, DX Clubs of the World, DX Programmes, Frequency Bands Allocated to Broadcasting, Television, Amateurs, News in English, Long and Medium Wave Stations, Radio Reception Conditions, Short-wave Stations of the World, Standard Frequency and Time Signal Stations; Where to Listen for Satellite Signals, and many more.

Publisher, World Radio T.V. Handbook Co. Ltd., Denmark; Australian price \$4.50, postage 15c.

Review copy supplied by Technical Book and Magazine Co. Pty. Ltd., 289-299 Swanston Street, Melbourne, C.I.

## PREDICTION CHARTS FOR AUGUST 1966



(Prediction Charts by courtesy of Ionospheric Prediction Service)





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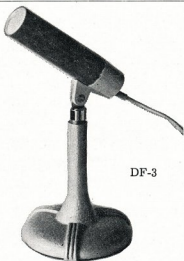
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### OLD-TIMER ACTIVE AGAIN

VK4DU, J. K. McCarthy, is ex-VK3FX and is re-entering Ham ranks after an absence of 12 years.

VK3FX first went on the air in 1930 with a 45 Hartley Osc. as Tx. and det. and 2 audio (all UX201A's) as Rx operating on 40 and 80.

In early '30's he was operator of 3RI on 215 metres on Sunday mornings—this was in the days when Hams were permitted limited operation on the broadcast band.

He joined the permanent R.A.A.F. in 1936 and retired in 1964 Squadron-Leader with D.F.C., A.F.M., and an Efficiency Award. He was navigator and wireless operator of Lancaster G-ASXX, the last flying Lancaster, which was flown from Surfers' Paradise to Biggin Hill, U.K., in May last year—arriving on 13th May to coincide with the opening of the International Air Fair.

He now owns a power cruiser in which he intends cruising Barrier Reef waters and the renewal of Ham activity will be for his vessel "Pandemonium." Operation will be on 40 metres (daylight hours only) and 80 metres at night. VK4DU also used the following calls: VK3FX, VK3IM, VK2VM, VK4FX.

## LOG BOOK

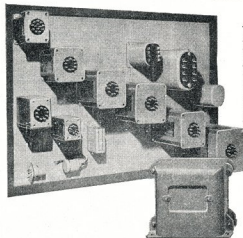
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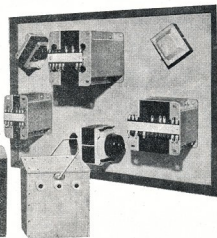
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LM 51



Sub-Editor: D. GRANTLEY, WIA-L2022  
Alexander Ave., Hazelbrook, N.S.W.

I have said repeatedly that the W.I.A. is strictly an Amateur body, and "A.R." as its publication should be devoted to that which the Institute stands for. However, on certain occasions, the Editor has been obliged to list very nature must be passed on for general information. Such an instance occurs this week, in the form of a letter from the Editor of Geoff VK3AKM, who reports reception on 11 stations of stations on the American Citizens' band at 2.30 p.m. E.A.S.T. This will be of interest to all amateurs, and is being passed on, over to Geoff. The QRM is terrific—dozens of stations on each channel but usually one or two signals predominate and are quite intelligible. The QRM is expected to continue the first week of June, and the gear here consists of a triband 3 El. beam at 45 ft. and a 2 El. beam at 25 ft. The beam is pointed to W in Sydney up to 4.30 p.m. local time, so it is possible that some of our s.w.l.'s may care to check these two bands during the week. I am sure that you are all interested in letting me know of this event.

It was a pleasure to renew acquaintance with former secretary of the VK2 S.w.L. Group, Gerry Albeck, when a letter from him arrived. Gerry Albeck, VK2GAL, is a member of the QSL manager for VK5WC, the club station of the Woomeera Radio Club. S.w.l.s are invited to send reports on reception of this station's signals at Box 1, Woomeera West S.A., and please include the following information in reports of CQ's and tests. A 4c stamp if enclosed will bring a reply direct, otherwise all reports will come back via the bureau. For a list of his gear, A.W.A. 72617 BC348M, BC452, and an AR88 which, together with Braun T1050 fed from 20, 25 and 31 metres antenna and a long wire, provide plenty of variety.

**DX NEWS**

OXASAC reported from Thule on 21 Msc. KCEBO is West Caroline whilst KCEWB is East Caroline. (see DX notes). FBSYY is on Adelaide. I pass this item on from 'Monsieur' VE4OX to the appropriate authorities. ing: CRGFG, DUIMR, FYIAU, TZUAU, TZUAU/SUT, VF2SJ, ZD5R, SUTAC, SOLAU, LIHLX and QSQSD. VE4OX requests all s.w.l.'s to enclose S.A.S.E. or I.R.C.'s, as he cannot request the Bureau. This is a XEROX copy of the letter from the Bureau to DX-RR. ELA is C/o U.S. Embassy, Vnoa, Monrovia, Liberia. CR5SP on 21 Msc. from Sao Tome. The following are listed as new members of the L.W.L. and QSLB can go for certain. The following are listed as new members of the L.W.L. and QSLB can go for certain. The following are listed as new members of the L.W.L. and QSLB can go for certain. WBPCF, WASGLC, GW3TDB, WASQY.

## AROUND THE SHACKS

Alan L608, operating on 20 metres logged  
 CSQC, CP5DK, OA4W, XE1R and YV5BAF  
 Bryan L6038 on 20 metres scored  
 100% on 100% on 100% on 100% on 100%  
 Geoff L6030 snared OX3JV, EA1GH, HB9FU,  
 XE2BHM and UG2BF. Inward cards at the QTH  
 of Eric L6034 were OA4W, CP5DK, XE1R,  
 ZSE8JG, Back to VK5. Where we look at the  
 log of Eric L6034. On 14 he heard KG0IG,  
 OA4W, YV5BAF, CP5DK, XE1R, HB9FU,  
 UG2BF, VU2CK, MP4BC6, FW3RC, CN8MT,  
 CT1PK, SAATK, ITGFCN, 5W1AZ, plus enough  
 others to fill this column. On 21 Mct. he logged  
 J.A. and J.B. on 20 metres. He was  
 concentrating on 10 metres and logged  
 J.A. and KB8 at 4.20 p.m.

Eric L6042 has had a quiet time, due to  
 his being away on a tour in the  
 course of duty, this to be followed by an  
 annual leave. He logged YV8XN and YV8WR on  
 20 metres. He also logged YV8XN and YV8WR  
 and WNE8K on 35. Inward cards were  
 HP1BR, VK0MI, VRSAB, V8EJG, YV8DZB, H6  
 C4PBR, and 4U1TU. 283 cards have actually  
 been sent out. He has also sent out 283  
 countries in 23 zones, whilst 606 reports have  
 been sent out. Total log entries now passed  
 1000. He has also sent out 283 cards from  
 32 Hampden Road, Battery Point) tells of  
 good conditions on 15 during the midday  
 period, when the band has been open to U.S.A.  
 and 100% on 100% on 100% on 100% on 100%  
 From VK7 a note from Bob Mutton that he  
 has just received GSL's from KBXBU, OE1HGW,  
 and others. He has also received reports  
 manager for VK0MI and this takes most of  
 his time, particularly when sub-standard s.w.l.  
 reports, and the usual bad weather reports  
 have to be dealt with. Please check

keep those reports confined to valuable information, and fact. The JA a.w.l.'s are doing a great job of harming S.W.I.-Amateur listeners who have been in the band since 1967. Congratulations to our well-known VK3 listener, Warwick Smith LZ811, on becoming the third a.w.l. to earn the W.I.A. S.W.L. DXCC card. This time he came from the U.S.A. via FSTRT, DU7SV, CTHIK, LX1CO, taking him to 133 confirmations thus equalling my score to date. Many prefixes were logged by Warwick, including VU, ZL, HA, G, and others. VP9, SW1, FB8, K5E, HK4, IS1, VK0, OK1, 7X3, OE, EP3, ZS2, SA5, etc., and on 15 March, VK3, HZ2, J2T, K, Y, and so on.

This year he has logged two countries. A letter from Peter Drew before his departure to Puckapunyal tells of new confirmations in the band which have given him 150 confirmations. Other cards received were from F2SY, FJCS, OGBZHG, OX3JV (7 Mca.), DHAAY, URMAR, VE1RB, VO1FB and KQ8AT. I am sure that he will soon be logging nevertheless he earned 14 a.s.b. 6YSAW, USAETE, KOSTA, KZ3PW, XE1KG, YS8JG, TS8CU, FTPTN, T8C, EA4AO, T8C, and others. On 24 Feb. he was heard on c.w. ZLIAOV/P (Cocos), COHBH, 4X4, JR, HIXAL, ULWEL were logged. On the other side of the world he was heard on 7 and 21 Feb. as VK9KI on c.w. 3.5 Mc. and on 12 Dec. I have had one of the best months on record for several years, 20 metres peaked here on 12 Dec. and 13 Dec. and 15 Dec. and 16 Dec. CREI, ZS8AND, VP9BO/P were amongst those logged. Others for the month on this band on c.w. only were VQBCH, FG7XZ, VP2KJ, and others. On 15 Dec. we were visited by CR9AH, EA8FE, GC2FMV, VU2DIA (Andaman) and ZS5UP. It was unfortunate that many of these were working Sydney DX men, and reports from them would not therefore be sent. Best signal on the band was without doubt from Jim VK6RU on 15 Dec. who worked me on 15 metres, which took me to 297 countries heard.

I note that 7 Mca. can still produce some really fine DX in the early hours, that is if you can do battle with the GRM, YU2, OBY, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060, 1065, 1070, 1075, 1080, 1085, 1090, 1095, 1100, 1105, 1110, 1115, 1120, 1125, 1130, 1135, 1140, 1145, 1150, 1155, 1160, 1165, 1170, 1175, 1180, 1185, 1190, 1195, 1200, 1205, 1210, 1215, 1220, 1225, 1230, 1235, 1240, 1245, 1250, 1255, 1260, 1265, 1270, 1275, 1280, 1285, 1290, 1295, 1300, 1305, 1310, 1315, 1320, 1325, 1330, 1335, 1340, 1345, 1350, 1355, 1360, 1365, 1370, 1375, 1380, 1385, 1390, 1395, 1400, 1405, 1410, 1415, 1420, 1425, 1430, 1435, 1440, 1445, 1450, 1455, 1460, 1465, 1470, 1475, 1480, 1485, 1490, 1495, 1500, 1505, 1510, 1515, 1520, 1525, 1530, 1535, 1540, 1545, 1550, 1555, 1560, 1565, 1570, 1575, 1580, 1585, 1590, 1595, 1600, 1605, 1610, 1615, 1620, 1625, 1630, 1635, 1640, 1645, 1650, 1655, 1660, 1665, 1670, 1675, 1680, 1685, 1690, 1695, 1700, 1705, 1710, 1715, 1720, 1725, 1730, 1735, 1740, 1745, 1750, 1755, 1760, 1765, 1770, 1775, 1780, 1785, 1790, 1795, 1800, 1805, 1810, 1815, 1820, 1825, 1830, 1835, 1840, 1845, 1850, 1855, 1860, 1865, 1870, 1875, 1880, 1885, 1890, 1895, 1900, 1905, 1910, 1915, 1920, 1925, 1930, 1935, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065, 2070, 2075, 2080, 2085, 2090, 2095, 2100, 2105, 2110, 2115, 2120, 2125, 2130, 2135, 2140, 2145, 2150, 2155, 2160, 2165, 2170, 2175, 2180, 2185, 2190, 2195, 2200, 2205, 2210, 2215, 2220, 2225, 2230, 2235, 2240, 2245, 2250, 2255, 2260, 2265, 2270, 2275, 2280, 2285, 2290, 2295, 2300, 2305, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2350, 2355, 2360, 2365, 2370, 2375, 2380, 2385, 2390, 2395, 2400, 2405, 2410, 2415, 2420, 2425, 2430, 2435, 2440, 2445, 2450, 2455, 2460, 2465, 2470, 2475, 2480, 2485, 2490, 2495, 2500, 2505, 2510, 2515, 2520, 2525, 2530, 2535, 2540, 2545, 2550, 2555, 2560, 2565, 2570, 2575, 2580, 2585, 2590, 2595, 2600, 2605, 2610, 2615, 2620, 2625, 2630, 2635, 2640, 2645, 2650, 2655, 2660, 2665, 2670, 2675, 2680, 2685, 2690, 2695, 2700, 2705, 2710, 2715, 2720, 2725, 2730, 2735, 2740, 2745, 2750, 2755, 2760, 2765, 2770, 2775, 2780, 2785, 2790, 2795, 2800, 2805, 2810, 2815, 2820, 2825, 2830, 2835, 2840, 2845, 2850, 2855, 2860, 2865, 2870, 2875, 2880, 2885, 2890, 2895, 2900, 2905, 2910, 2915, 2920, 2925, 2930, 2935, 2940, 2945, 2950, 2955, 2960, 2965, 2970, 2975, 2980, 2985, 2990, 2995, 3000, 3005, 3010, 3015, 3020, 3025, 3030, 3035, 3040, 3045, 3050, 3055, 3060, 3065, 3070, 3075, 3080, 3085, 3090, 3095, 3100, 3105, 3110, 3115, 3120, 3125, 3130, 3135, 3140, 3145, 3150, 3155, 3160, 3165, 3170, 3175, 3180, 3185, 3190, 3195, 3200, 3205, 3210, 3215, 3220, 3225, 3230, 3235, 3240, 3245, 3250, 3255, 3260, 3265, 3270, 3275, 3280, 3285, 3290, 3295, 3300, 3305, 3310, 3315, 3320, 3325, 3330, 3335, 3340, 3345, 3350, 3355, 3360, 3365, 3370, 3375, 3380, 3385, 3390, 3395, 3400, 3405, 3410, 3415, 3420, 3425, 3430, 3435, 3440, 3445, 3450, 3455, 3460, 3465, 3470, 3475, 3480, 3485, 3490, 3495, 3500, 3505, 3510, 3515, 3520, 3525, 3530, 3535, 3540, 3545, 3550, 3555, 3560, 3565, 3570, 3575, 358

### BAND CONDITIONS

There seems to be increased activity on the higher frequency bands from all states, particularly on 15 metres in South and West Australia. 10 metres has been open as late as 4.30 p.m. local time, in the Eastern states, whilst the c.w. portion of 7 and 3.5 are alive and well. The 100 Mc. band has been the morning when the Europeans are coming in 589. Seven Mcs. also still provides a lot of late afternoon and evening DX to the American continent, both on s.s.b. and c.w. The problem of commercial QRM makes copy extremely difficult unless one uses a first-class

### R.D. CONTEST AND THE S.W.L.

In writoutout: the VK3 Divisional notes the subject of participation in the Listeners' section. The VK3 Divisional notes the subject of participation in the Listeners' section. The VK3 Divisional notes the subject of participation in the Listeners' section.

a.w.l.'s who now hold their L.A.O.C.P. again came to mind. In the past there have been cases where a w.l. has entered the V.h.s. and entered the a.w.l. section. In all respect to our good friends who hold their L.A.O.C.P., we must draw attention to Rule 1, the National Constitution, which states "The V.h.s. shall be open to all Short Wave Listeners in Australia, and no transmitting station may enter it." This means that if you are a w.l. you can't enter the V.h.s. unless you have your own section this year. If you as a L.A.O.C.P. holder have any doubts about this, please write to me at the address R.D., I suggest you contact Jim VK8RU for an official ruling while you still have the chance. Remember, the purpose of the V.h.s. is to give committee desire as much listener participation in contests as possible, but it would be better to have one person enter and win taking a thousand or more points, than have your log disqualified. Whilst on the subject of the V.h.s., I would like to mention that the club stations as the VK3 group competing against the individual operator. I cannot recall seeing any such entry in the contest results. In the RX section assures us that this is not so, and that the Club Stations are not eligible to compete. As far as the V.h.s. goes, many a.w.l.'s enter these contests complete with pencillog, log-keeper, tally checker, and wordbook. I hope if stations have been previously logged.

## DIVISIONAL NEWS

From Inn Woodman on behalf of the VK3 group. "Our congratulations once again go to Robert Halligan, this time for obtaining highest score in the 1966 John Moyle National Field Day. VK3 also got 3rd place with Eric Trebucher who was only 246 points away. The 1966 edition of the group's newsletter "Zero Beat" have been made available. We trust you have not forgotten to send your donation so that all future copies will be sent to you. The May meeting of the group was once again a full house, extra interest being a row of VL's as a result of the group's publicity in the local press. The next meeting will be on June 10th. We hope to see you. During the week we saw VK3WJ, the Victorian Division Station, thanks to Bill Reppe.

## VK2 NEWS

Per the 100 ohm line from Chas. Abernethy, we learn that the next outing of the VK2 group will be a visit to the O.T.C. at La Perouse. This will be held on Saturday, 11th March, and the other members of the VK2 group, or your secretary, will be invited to attend. Attendance is not to be on the increase at the meetings, and to encourage this, a film will be shown at each meeting night, sharp at 7.30 p.m. This is the 3rd Friday of the month, and the films are being supplied by Mullard. I must apologise to the VK2 group for my inability to attend any of the group activities, and to ask them to get together with a 70-mile trip rule this out.

ELIZABETH RADIO CLUB

For those listeners who are making the effort to gain the Elizabethan award, Ernie Luff wants you to know that the weekly club round-up has commenced again as from June 20 on 80 metres. Timed at 8 p.m., the first get-together comprised seven stations, including the Club station VKSLZ, which counts as a points station towards the award. Do forget this one club, but one again make reports worthy ones, and remember the time, 8 p.m. on Mondays using the 80-metre band.

### Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

## RECIPROCAL LICENSING

Editor "A.R.," Dear Sir, I noted with interest the announcement on page 21 of the June issue of "A.R." that VK3ZGG had been issued with an F.C.C. permit to operate in this country under the Australia-U.S.A. reciprocal licensing agreement.

However, for the record, I would like to point out that this was by no means the first such permit issued, there being at least two earlier ones to my knowledge.

I believe the first one issued was to me and was dated August 25, 1963. I attach a copy of this for your information. This was just two months after the formal exchange of notes between the two governments. Shortly after mine was issued, VKSRN, David Robertson, obtained his and he has been active from Long Island, N.Y., although I believe he is returning to Adelaide shortly. I am active on 14 Mc. and always looking for VK contacts 14 Mc. or around 14,075 c.w.v. and 14,205 s.s.b. particularly during the week-ends between 2400z and 2600z.

### NET OPERATING PROCEDURE

Editor "A.R.," Dear Sir,  
It is very disappointing to hear the lack of Amateur spirit displayed on a net frequency one Saturday afternoon (11th June, 1966).  
I agree that long overs without breaks is thoughtless but this does not give other band users the right to broadcast their direct criticism.

If it is essential for fixed stations to radiate their kilowatts on mobile net frequencies then they could firstly try clearing the channel but tactful use of the telephone and as a last resort make official complaint through the W.I.A. It is very embarrassing to listen to the exchange of heated retort on the air.

Those Amateurs who are so impatient and ready to criticize others should take time out to hear a recording of their own procedure to see if it is as good as the standard of perfection which enables them to sit in judgment of their fellow Amateur.

I suggest that all net operators read or re-read an excellent article by Cyril Maude, VK3ZCK ("A.R.," May, 1966, p. 14).

—David Voight, VK8ABC.





# FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

## FEDERAL NEW SOUTH WALES

The last meeting of Executive was held on the 28th June, and apart from considering the minutes of the last few meetings and quite a large agenda, dealt with items such as the appointment of an I.T.U. Representative and the handling of magazine subscriptions by Executive. Work is also on the way on the proposition of a case for novice licensing.

### AUSTRALAS PROJECT

From information received it appears that work is proceeding satisfactorily, although a meeting to be held early in July will clarify the situation somewhat. It does appear that there is quite a deal of interest, not only in Australia 1, but in some future satellite, and Executive feel that whilst it is better to begin thinking of such a project, all efforts should be directed towards satisfactorily completing the present project before a second venture. It should be realised that a second attempt will be more expensive than the first as equipment will have to be more sophisticated for one thing. At the present stage, the Institute will not be considering any future requests for making any policies in this direction until Australia 1 is off the ground.

### I.T.U. REGION 3

Unfortunately Harold Hepburn, Vice-President, was unable to be present at the meeting, but he did submit quite a list of ways and means of obtaining finance for a Regional Conference which we feel is desirable to hold before the next I.T.U. Conference. This matter will be again on the agenda for the next meeting. For fuller details in the minutes can be obtained from your Federal Council. It is sufficient to say that some tentative inquiries have been made as to implementing various schemes to raise the necessary finance. However, letters have been written to all member Societies in Region 3, asking them to start, through correspondence, an exchange of ideas and of problems so that we have, at least, a working basis for future discussions.

### RATIFICATION BY DIVISIONS

The voting of all Federal Councils at the last Federal Convention in Brisbane has been ratified by their Divisions, with the exception of N.S.W. As soon as an indication is given of agreement to the minutes as presented, work will proceed on the new Federal Constitution.

## FEDERAL QSL BUREAU

The Ravenna Radio Club (Italy) organised a field day on June 25/27. Their station was situated on the five miles off-shore island of Saron Refinery and the station signed IHIDA on 35 Mcs. to 28 Mcs.

The Municipal Commission de Turismo at Aveiro, Portugal, has made a nice award available for Amateur stations. Two Aveiro stations on any band after 1st January, 1968. Full details from this Bureau.

The N.R.R.L. (Norway) established a club delegate attending the C.C.I.R. conference held in Oslo during June and July. A club station was installed, working c.w. and s.s.b. on all bands with the call sign LA1UT.

The 4th Annual Convention of the I.R.S. sponsored by the Illinois C.H.C. Chapter No. 17, is scheduled to take place from 16/2 August 6 to 22/2 August 7. Exchanges are Number, RST, State and Country. Each QSO counts one point and multiplier is the number of Illinois countries worked. Awards to the highest scorer in each country. Logs to K9BAB, post-marked 1st September or earlier.

A few copies of the rules of the 12th European DX Contest, staged by the D.A.R.C. and scheduled as under, are available from this Bureau.

C.W.: Zero G.M.T., 13th Aug., to 24/2, 14th Aug.

Phone: Zero G.M.T., 19th Sept., to 24/2 11th Sept.

—Ray Jones VK3RJ, Manager.

Although the attendance was down at the June meeting of the N.S.W. Division of the W.I.A. held at Wireless Institute Centre, Crows Nest, on Friday evening, 24th, those who were there had the pleasure of listening to one of the most interesting—and certainly the most humorous—talks it has been our pleasure to hear.

President Tom O'Donnell VK8OD occupied the chair and introduced Mr. K. Langford-Smith, who, with his wife, conducts the Marcella Mission Farm for Aboriginal Children at Kellyville, on the north-western outskirts of the Sydney metropolitan area.

Incidentally, Mr. Langford-Smith's only connection with Amateur Radio is that his brother was the editor of the Radiotron Designers' Handbook, well known to most Amateurs.

The lecturer had been a medical missionary in Arnhem Land for several years from 1928, when conditions in that part of the world were decidedly wild and woolly—and had pioneered the use of aviation in the first flying medical service in that area. Over the years, communications ranged from aboriginal message-stick, homing pigeons, to pedal wireless, and transport from camels, model T Ford, to an old Gypsy Moth aircraft. The latter was often repaired with wush timber, nuts and bolts from the Ford, and at one time the fabric was patched with the lecturer's shirt.

For an hour the audience was regaled with anecdotes that produced frequent bursts of laughter, and later the President, as well as some of the members of the Division (VK2AIM), both expressed the feelings of those present by hoping that we would have the pleasure of hearing Mr. Langford-Smith again.

The Federal Council President, Mr. Dick VK2APQ submitted the minutes of the recent Federal Convention, held in Brisbane over Easter. Pierce closed the main part of the minutes, after which they were received by the meeting and left to Divisional Council to deal with. The most controversial section of the minutes dealt with the proportional voting by Divisions in connection with the proposed Federal Constitution. This matter was informed that the Constitution Committee would be discussing this matter in the near future.

Eleven applicants were admitted to Institute membership, as follows: Full—K. B. Brown, R. Waller VK2ZZN, T. Oloog VK2PT, P. L. Buchtmann VK2ZDF, Associates—R. L. Knight, B. North, G. Hines, C. Mackie, H. D. Lindell, M. Caratti, F. E. Aveling. With VK2 Divisional membership, the highest on record, almost reaching 1300, it is unfortunate that approximately 100 names have had to be deleted from the roll because of failure to come forth with the necessary subscription. This means, of course, that these tardy characters will now lose all benefits of membership, and, once lost, they take some time to be reorganised again.

Overseas visitors welcomed during the evening were W6VFE and W6WPI, while several of our Hunter Branch friends also made the trip down.

The sympathy of all members was tendered to Don Miller VK3GN in the loss of his 19-year-old son, Robert, a member of the Royal Australian Navy, who lost his life in a car accident in Brisbane during the month of May.

The chairman informed the meeting that Cyril Henderson VK3CH had been co-opted to Council to fill the vacancy caused by the resignation of Mr. Colin VK2XNV. Council was now up to its full strength of seven members.

Councilor Stan Dogger VK2ZRD has been appointed Communications Officer, and would like to hear from anyone willing to act as Duty Engineer during the summer months at VK2WJ. His telephone number is 55-1383.

Harold Burtott VK2AAH, Education Officer, said that during the month he had been in VK2ZRD had come down from station/mobile.

## SILENT KEY

It is with deep regret that we record the passing of:

VK3XID—Dick Dowling.

VK6RW—Bob Muir.

VK6ZBF—Rodney Burke.

Amateur Radio demonstration for the benefit of the Pendle Hill Church of England Men's Club, and their beer money successful and much appreciated by the club members. Harold also gave a pat on the back to the organisers of the Penrith District Radio Club's field day, held on Queen's Birthday week-end. Although in existence for only three months, this club had made an excellent job of running its first function. A report of this event appears elsewhere in these notes.

It would appear that a decision of last year's Divisional Council—to provide a memorial library with funds donated by the late John Peehl VK2WJ—should have become a reality by the time these notes appear in print. The President reported that he had obtained a suitable quotation and the work would commence almost immediately. The cabinet will look into the sliding scale of prices and this will enable members to see what is available, at the same time ensuring that books in the regular magazine bond are moved by "cotton-pickin' fingers" during the absence of the librarian.

Sid Molen VK2SG, QSL Officer, reported that 1780 cards had been received and 3240 dispatched for the month. This number of outwards cards was the greatest since 1958.

There was a short report from the meeting, Phil Irvine VK2ZPJ showed a film of the last combined VK4/VK2 "Famest", held in the U.S.A. The film, which had been shown on L.V. stations in Brisbane and northern N.S.W., and was sent to us by Eddy VK2BIS. A similar combined family affair is set down for 20th November next, and it is to be hoped that it will be even more successful than the last one.

Old-timers were reassured to see Dick Dove VK2PR at the June meeting. He had been inactive for about 12 years and celebrated his return to the fold by winning the monthly competition for the overseas callbook. Dick held the office of Divisional Secretary for a number of years, and our meetings were held at Science House.

The executive of the Institute of Radio and Electronics in England has advised that they were making a donation of a large number of "CQ" and "QST" magazines for our library. This is a very generous gesture and merits the thanks of all who read and appreciate them.

While on the subject of donations, our Morse Tape Service has issued an appeal for used tapes in good condition. Anyone wishing to donate tapes to this popular and worthwhile service is asked to send them to the Supervisor, Ern Hodgkin VK2H, Mangrove Road, Narrara, N.S.W., or they may be left at Wireless Institute Centre, 14 Atchison Street, Crows Nest.

Reference was made to those who had returned creditable results in this year's John Wroe Memorial Field Day Contest. Arthur VK2JAT had the highest score in the six-hour period; Jan Oostervan VK2BJO, David Russell VK2HSC and Susan Brown VK2HSC, working under the call sign of VK2ATZ/P, received a Merit A award for highest score in the low power, multi-operator section. Then, of course, we have those busy bodies Harold Burtott VK2AAH, Sid Molen VK2SG, Mac MacNaughton VK2ZH, David MacNaughton VK2ZVW, Laurie Cartwright VK2ZB, Brian VK2ZB, and Don Miller VK2ZCF. All Williams VK2ZAL—who between them amassed the score of 3969 points on the night on records set by the contest heard on the grapevine that Laurie Cartwright, being the only bushman in the group, had been the last to be heard on v.h.f. antennae into position, and that much of the success of this part of the operation was due to his efforts.

The main events in the VK Contest calendar, the Remembrance Day Contest, is with us this month, on the 13th and 14th. May we urge our QSO friends to be ready to get into this event and be sure to enter your logs. If your Division is to have any chance at all, we must have maximum support from its members that have been the cause in the past.

## VK2WJ ENGINEER COMMISSIONS

### COASTAL RADIO STATION

For several weeks between April and June the early morning 80 metre net, known as the Goon Show, was without one of its regular stalwarts, to wit, refer to Willy, Jenvy VK2ZO, otherwise known as "Willoogy Will". And from his affiliation with the Goons, Bill is a

well-known c.w. operator, and "nothing de-lights him more than an excuse to "pound the brass". He is also on the panel of engineers who assist at VK2WI broadcasts.

Before his retirement in 1984 from the position of Chief Engineer of Overseas Telecommunications Commission, Bill had recommended that a new coastal radio station be erected at Cape Schanck, Victoria, to house VIM, which was being operated from Melbourne, with receivers at Rockbank and transmitters at Fliskville. As a result of his report on this project, he was brought out of his retirement to commission the new station, and it is pleasing to report that his efforts have been crowned with success.

## VK2 DIVISION

This month there are a few surplus items besides the usual stock of new equipment.

One only Heathkit DX40 Transmitter kit. Ready to assemble, c.w. or a.m. (80, 40, 20 and 10 metres). \$60.00.

One only AR88 Receiver, 540 Kcs. to 32 Mcs. Good condition. \$170.00 (or offer).

One only, Collins ART13. \$60.00.

Three only, Type Y1. Regulated Power Supplies, which suit BC221 frequency meters, \$10.00. (The above prices f.o.r. Sydney). Crystals: 3720, 3760, 3800, 3885, 3990, 3995 Kc., \$1 each or \$5 for \$4. (4 mc. range will be listed next month.)

Inquiries to Radio Equipment Store, Wireless Institute Centre, 14 Atchison St., Crows Nest, N.S.W.

## LECTURE TAPES

These are available from the VK2 Division free of charge, except on postage both ways. A tape and slides will be sent upon request. Note the value of postage and include this value in 4 cent stamps with the tape when you return it. All inquiries to Education Officer, 14 Atchison St., Crows Nest. At the moment there are 37 tapes in the library. Each month in this column five tapes will be listed. A complete list is to be found in a copy of the "Amateur Guide" (a VK2 Division Publication).

No. 1. Transistors, 2 hours, 8 slides (VK2AAH).

No. 2. Aircraft Navigational Aids, 27 minutes, 27 slides (Peter Griffin).

No. 3. V.O.R., 1 1/2 hrs., 8 slides (Peter Griffin).

No. 4. Phasing Type S.s.b. (a.s.b.-1), 1 1/2 hrs., diagrams (VK2AC/VK2JR).

No. 5. Master Oscillators, 1 hr., 24 slides (VK2JR).

## AMATEUR GUIDE

A reminder that there are no complete copies of the above available at the moment. They are of print and it is not expected that any further reprint will be made this year. Those who already have copies are reminded that the 4th sub-section will be available toward the end of this year. Watch this column for details.

Bill's recommendation had been that a more northerly corner would give a much better signal coverage for shipping in this area, and this had now been proved by results. The station is required to overlap the coverage of the other stations at Sydney, and excellent signal strengths have been reported by shipping throughout the area.

Three transmitters are housed in an air-conditioned building, one of these having a power of 2 k.w. into the antenna on the medium maritime frequencies, and another 1 k.w. each on the high frequencies. The 2000 watts on both frequencies is used as a standby. The station is also equipped with a diesel emergency power supply.

The main medium frequency aerial is an insulated 150 ft. steel mast which is itself the radiator, and, on the 2 Mc. band, vertical fans are used to obtain coverage of several frequencies. On high frequencies, "Wells" gap quadrants are employed, and these cover a band plus or minus 16% referred to the centre design frequency, with a t.w.r. of less than 2:1 and an omnidirectional radiation pattern.

During preliminary tests the 500 Kc. transmission was received in Auckland (N.Z.) at 1200 A.M. and in QSA at the location at Fliskville 60 miles west of Melbourne.

The Cape Schanck station was officially opened on 3rd June by the Postmaster-General (Mr. S. R. Hudson) in the presence of a distinguished gathering.

An interesting sidelight to this story is that Bill's father, in 1901, was carrying out experiments in radio communications to the Port Phillip Post Office, and it is indeed a coincidence which his most distant contact was with W. St. George, which at the time was off Cape Schanck.

## SUCCESSFUL FIELD DAY

Overcast skies and a cold wind did not dampen the enthusiasm of those who attended the Nepean District Amateur Radio Club's first field day. St. Mary's on Sunday, 12th June. Thirty registrations were recorded, with a total attendance, including XYLs, YLs and harmonies, of 77. The Club's President (Max VK2KMF) has supplied the following information on the day's activities:

The first event was a mobile scramble, in which the contestants were allowed an hour to travel 10 miles away from the field day area. Prizes were awarded to the top scorers in the h.f. and v.h.f. divisions, the respective winners being VK2KMF and VK2JRM.

Four mobile events were staged during the day, a refreshing touch of showmanship being injected into these events by the introduction of a Le Mans Grand Prix. The contestants were at first somewhat baffled by this procedure, but by the time of the last event were providing spectators with a sight of wheels spinning, gravel, and smoke. Three of the events were conventional hidden transmitter hunts and the one event was a continuing fox hunt.

A pedestrian hidden transmitter hunt proved that these events are very popular but are becoming the forte of the younger (and fitter) competitors. (How about an "old buffers" event at field days?)

Novelty events for ladies and children were keenly contested, particularly the "field day" events. This was a medley event, in the final stage of which each lady had to inflate a balloon until it burst, immediately after having bolted down a food, innkeeper's biscuit!

An interesting backdrop to the day was a point-to-point communication net manned by the Penrith Civil Defence, the first of its kind known occasion, in which the Civil Defence and the Amateur Service had co-operated so closely, this point being remarked on by the Divisional President, VK2OD, during his address.

Prizes were donated by A.W.V., Fairchild, O. J. Lemprecht, Electronics, Muller, Muller, Aerostat, I.R.C., Roland Grivas, W.I.A. (N.S.W. Division), and by the Nepean District Amateur Radio Club. Each of the winners was presented with a folder of pamphlets and booklets donated by A.W.V. The club wishes to express its thanks to all these donors.

73, Ivan VK2ADM.

## HUNTER BRANCH

A near record was established at the July meeting of the club when 43 members and 12 guests assembled to hear three outstanding lectures on diverse topics. Ian Z2IF continued his theme of last meeting by presenting the "promoted" "promoted" concept of a two-way operation. This, Ian explained, is easily built from ice-cream cans—the chassis that is—but the course of the lecture was a little different. Presenting a detailed circuit and constructional details he had many of the audience thinking that most of the feeding and construction are only bogies and, if the details

he described are followed, no difficulty should be experienced in getting the unit to give excellent results for the most thumb-handed of us. More will be heard of this excellent project and those experienced in the field of the art are ready to help the new constructors who wish to have a lash at it. Ian's notes will no doubt be available on request. The address if you were unfortunate enough not to be at the meeting, Second on the bill was Max McLachlan, who described his method of measuring he has undertaken to soundproof and air-condition the shack at the Westlakes Club. Max has presented a series of detailed drawings to assist those seeking the ultimate in soundproof comfort and was able to answer the questions of those who required further details.

Those following his suggestions should have no difficulty in putting a really first-class signal on the air. Bill Z2AF was the third lecturer and he described his new famous helical whip aerials using which he has managed to make the mobile DXCC since February this year. Again with a host of drawings outlining all the details he told how simple it is to get a really efficient radiator for the mobile rig in the car. Bill has been successful in the past in making a mobile equipment—so much so that his signal reports are practically identical to the car as from the home station. Once again a really mobile rig is possible. It is hoped that you are contemplating high efficiency for mobile operation.

At the conclusion of the lectures, Gordon Z2AF, on a vote of thanks, to the three for their excellent presentation and this was heartily acclaimed by the audience. President Frank Z2PO then presented a paper on the function in presenting certificates recently won for prowess in both operating and construction. The new members of the U.S.A. and members of the Youth Radio Scheme, were handed their Elementary Radio Certificates while Susan Z2SB accepted the John Moly Memorial Certificate for the best winning mobile power field station which was jointly manned by herself, Jan Z2JO, David Z2SC and Paul Z2KX. The three persons who were mentioned young people deserve special praise for their efforts with relatively primitive gear especially on one of the mobile stations. The day was accomplished with a motor mower coupled to car generator. This power source served both transmitters and the day was a VK2JRM on the heights of Mount Mumbung, near Cardiff.

Some rarely heard calls have been on the air during the month. The calls were: VK2JRM, Les 2B3, Gordon Z2AGD and Harry Z2AFA working on bands 20 to 30 metres. George has a fine sideband signal and is working on the bands 20 to 30 metres and Harry makes do with a.m. phone on 40. Jack Z2KQ has been forced to go QRT while he takes a spell in hospital and all members wish him a speedy recovery and a return to the duck talkers' brigade. Les 2B3 now has a modern aerial from the U.S.A. and is on the sideband band and the Valiant and it is expected that he will be among the rare ones mobile by now. Max Z2BK, having completed the licence, is now working on the bands 20 to 30 metres and has had instant success and landed some W's at the first attempt. He says the report was 5 but it is not clear if it was a 5 or a 6. Max may be returning—at least briefly. As far as the coaly city men are concerned, Civil Defence has taken up the slack and the communications for the recent evacuation to Dungog were ably handled by Chris's crew. Ray Robinson has cause for jubilation in being the first to defeat the 1000 watt mobile with a limited ticket and he is almost ready to go on the air when the authority arrives. One local member who must remain in the club, most pleased to learn recently that a major fault in the transceiver could be repaired with a new fuse and a new fuse, and a new fuse, vague mutterings about left-footed Morse examiners since the results of the last examination and some candidates are wondering if it is not a good idea to have a "straw" was taken literally in the advertisement for staff. Don Z2AE, a visitor from the club, has his own v.h.f. rig and he says. Plans for the coming Spring Convention are well in hand and by all reports it will be another very successful one. It is advised to watch the Bulletin for the latest reports. The event will be held on the October 10th and 11th at the Field Day site, Bolton Point in the shadow of Jim's drums and almost at the end of Lionel's aerial. And to accommodate the meeting successfully an extra day will be added to the program which allows for two meetings—one on the first Friday, and another on the last. So watch the Bulletin for details. You can't be caught! See you at both. 73, Z2KX.

# DISPOSAL BARGAINS

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8 PARK STREET, GLENFERRIE, VIC. (OFF GLENFERRIE ROAD)

Phone 81-1935

(Mon. to Fri., 10 a.m. to 5 p.m.; Sat., 10 a.m. to 12.30 p.m.)

## SWITCH BOARD

Completely wired, Type F & F.T.M.C. unit. Contains 36 key switches, 26 P.M.G. Plugs, 34 Drop Latches, hand-operated Generator for ringing. Size 20 in. wide, 18 in. deep, 21 in. high. Weight 60 lbs. Price \$35.

## CONDENSERS

50 uF. 200v., pigtail ..... 20c ea., \$2 dozen  
500 uF. 12v., pigtail ..... 20c ea., \$2 dozen  
12 uF. 50v., pigtail ..... 20c ea., \$2 dozen  
3 uF. 100v., pigtail ..... 10c ea., \$1 dozen  
10 uF. 12v., pigtail ..... 10c ea., \$1 dozen

## PP/439/AFG-30 POWER SUPPLY

Radar type, new. Contains 36 valves—8 6AQ5, 5 6X4, 4 12AX7, 2 6AK5, 3 6AL5, 2 12AT7, 2 2D21, 6A56, 2 2C31, 2 6J5, 6AG5, 2 6AH5. Also twin 28v. blower motor, relays, variable conds., transformers, etc. 28v. 500 cycle. Ideal for wrecking. Sorry, no further information. Brand New. \$35.

## STEEL TRANSFORMER BOXES

6 1/2 x 5 x 5 inch with matching lid, air vents each end. Ideal for battery charger, etc. Unpainted, new. \$1. Discount for quantity.

## DURAL TUBING

1/4 inch Tubing, 6 ft. lengths 36 ft. for \$3 or 40c per 6 ft. length.

## NEW TOGGLE SWITCHES

S.P.S.T. 5/- each. D.P.D.T. 10/- each.

## POTENTIOMETERS

Wire Wound, 4 Watts, 1 1/4 inch diameter. Sizes available: 5, 10, 25, 50, 100, 250, 500, 1K, 2K, 10K, 50K ohms. 4/- each.

## NEW CHANNEL LOCK PLIERS

Type 337W ..... 20/- each  
Type 356 End Cutters ..... 20/- each

## POWER TRANSFORMERS

1992 150-0-150v. 30 mA., 6.3v. 1.75A. 37/8 \$3.75  
1993 225v-0-225v. 50 mA., 6.3v. 2A. 45/- \$4.50  
2062 Voltage Doubler, 280, 285v. 87/8 \$8.75  
d.c. 80 mA., 6.3v. c.t. 2.25A. 67/8 \$6.75  
2064 Voltage Doubler, 340, 315v. 87/8 \$8.75  
d.c. 125 mA., 6.3v. c.t. 2.25A. 87/8 \$8.75  
2067 Voltage Doubler, 310, 285, 250v. 87/8 \$8.75  
d.c. 100 mA., 6.3v. c.t. 4A. 83/8 \$8.35  
280-0-280v. 60 mA., 6.3v. 2A. 17/8 \$2.75  
385-0-385v. 100 mA., 6.3v. 3A. 35/- \$3.50  
385-0-385v. 125 mA., 6.3v. 3A. 35/- \$3.50  
2A., 5v. 2A. ..... 45/- \$4.50

## BATTERY CHARGERS

Dual, c/w. Meter in Metal Hammer Case  
6 volt 4 amp, 12 volt 4 amp. .... 157/8 \$15.75  
6 volt 6 amp, 12 volt 6 amp. .... 217/8 \$21.75

## DISPOSAL METERS

G.E.C. Panel Meters, 3 1/4 inch round, 2 1/2 inch round mounting hole. Brand New. \$1.75.

## P.M.G. TYPE

Standard Rack, 19 inch panels and chassis. All sizes. Plenty to choose from. Personal shoppers only.

## T.V. PROBES

American Precision, TV-5B, 490 Mc., 30,000 volt. Brand New carton. \$8. 12 only.

## BRACKET BEZAL LAMPS

1/4 inch diam. Bezel in Red, Amber, Green. Suit screw type globe. 35c, 4 for \$1.20.

## Q PLUS COILS

ABI T.V. Balun	\$1.75	VIF3 L.F. Trans.	90
AC2 Aerial Coil	\$1.00	VIF4 " "	90
AC3 " "	\$1.00	VIF5 " "	90
AC4P " "	\$1.00	VIF6 " "	90
AC4S " "	\$1.00	VIF8 " "	\$1.30
AC7 " "	\$1.30	VIF9 " "	\$1.00
AC9 " "	\$1.30	VIF12 " "	\$1.00
IP14 L.F. Trans.	\$1.30	VIF14 " "	\$1.00
IP15 " "	\$1.30	VIF15 " "	\$1.00
IP28 " "	\$1.65	VIF28 " "	60
IP34 " "	\$1.30	VH01 " "	60
IP36 " "	\$1.65	VW1 " "	60
IP44 " "	90	RCS Reinartz Coil	\$1.00
IP45 " "	90	RCS " "	\$1.00

## ROTARY WAFER SWITCH

1 pole 24 position 3 bank. Physical size: 3 x 3 inch. Price 30/- (\$3.00).

## MAGNETIC RELAYS

Sealed Type  
24 volt, 670 ohms, D.p.d.t., size 2 x 1 1/2 inch, Price 15/- (\$1.50).  
24 volt, 700 ohms, D.p.d.t., size 1 1/2 x 1 inch, Price 15/- (\$1.50).

## NEW CHOKES

7-5H. 125 mA. 30/- ea. 14 H. 60 mA. 12/6 ea.

## NEW VALVE SOCKETS

832A Sockets	.....	20/- each
4/250A " "	.....	20/- "
Acorn " "	.....	3/6 "
EF50 " "	.....	2/6 "
VCR97 " "	.....	10/- "
805 " "	.....	12/6 "
EA80 " "	.....	2/6 "
5-pin " "	.....	2/6 "
6-pin " "	.....	2/6 "
7-pin " "	.....	5/- "
7-pin P.T.F.E. Sockets	.....	5/- "
Locketal P.T.F.E. Sockets	.....	5/- "
Special completely shielded 7-pin	.....	10/- pair
P.T.F.E. socket and shield	.....	10/- pair

## TRANSCEIVER

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It has been said that one can never tell just what is inside a parcel from its wrapping. The same can be said of a man, for from his skin—and to this must now be added that one can never tell just what hidden in his mind—much can be known about the exterior of the operator of 5WI, Murray SZ. This assertion is prompted by the fact that the man who is known to me as "the VE states man" was in QSO using "The Thing," and just as they were signing off, who was it? Bob? No, it was Murray, at 7:30 a.m. at that, yes, you heard me, a.m. at that, none other than our intrepid hero, Murray, who was signing off. I was not alone in the world. Well, to make a short story longer the first Canadian threw up his hands in utter despair, because he had not heard anything, because nothing further was heard from him. However, the remaining VE, probably made of sterner stuff, did come back and repeat the message, and someone strained voice that it was getting late and he would like to have a look around the band, and then he said, "I am sorry I can't help him for his report, and said he would not keep him, and then went back to his project of listening to the VE states man's words and purposes blissfully unconscious of the upheaval he had caused on the band. What a man! I can only hope that the VE states man on this young man, he will go far, but I am not sure in which direction! That is why I bumped into Jack 535 at the

## OBITUARY

The Institute also extends its sympathy to his wife and family.

**PAUL HARDWICK ANDREWS**  
died suddenly on 22nd June

A self-made man who rose to the top.

No doubt about these publicity hunters. No one does the publicity die down for Phil's daughter Judith in the Junior section of "Coles' Question" (she is reliably reported as having more oodle in the bank than the bread).

Nothing has been heard of the receiver that the  
the Q.T. George Spivey  
Latest information is that he is leaving it to  
he and the insurance company, as  
the having no insurance  
prof. I learnt at an early age that the best form  
the attendance of the Q.T. George Spivey  
arrange me at home the other night, and when  
informed by my better nine-tenths that I had  
the Q.T. George Spivey  
6 o'clock to have a look at the VK3 foot  
sell on t.v., chorled loud and long, and said, and  
him. Just in case he carries out his threat, I  
to publicly tell my Q.T. George Spivey  
the Q.T. George Spivey  
or my intention to rise at 10 o'clock. The  
the Q.T. George Spivey  
all on me to have a discussion about a man  
there. the Q.T. George Spivey

73 de 5PS—PanSy to you.

## WESTERN AUSTRALIA

Our congratulations must also go to Mac for his achievement in being selected to receive a Rotary Award for Technical Training. Mac was one of the lucky twenty-five candidates from a total of 165 candidates from all over the world. Mac will be returning to attend the Milwaukee School of Engineering in the United States for one year. Sounds like a wonderful opportunity to acquire some additional knowledge and a bit of the latest Ham near into the bargain. Safe travelling, Mac.

Another new voice, another new piece of gear, this time it's Carl 6XW, and the aforementioned piece of gear is, I understand, one of those long-necked birds. No, no, not an ostrich, a Swan. I told you before, those boys down at Narrogin were busy bees, not only on the d.c. bands, but the v.h.f. as well. A couple of new 52 Mc. base stations were recently installed.

All this talk of birds and bees, crumbs, next thing you know I'll be writing a "lonely hearts" column.

Some of you may recall that man of many call signs "B.R.D.R." who, on the vessel "Sea Search," well, he recently returned to this state for some five or six weeks and journeyed to Carnarvon. Such is the fatal charm of this Widdoway State.

A report to hand from one of my spies, who may remain unnamed for fear of reprisals in the form of extra homework, informs me that the C.B.C. Radio Club has resumed normal (?) operations, after their Northern Safari and are now settling down to a profound study of the Triode valve. Keep interest is also being shown by the newly-formed group in the neighbouring girls' school.

Laurie 6ZEA also tells me that the group at Wesley College is also progressing favourably. It is also within the realms of possibility that yet another Youth Radio Club may be formed in the near future, this time as far afield as Carnarvon. I am very interested in this aspect of our hobby. Good luck, O.M., hope it turns out some more call signs very soon.

Despite the strenuous efforts of a number of interested amateurs, it seems that W.I.C.E.N. in VKS is slowly but surely grinding to a halt. The Sunday morning call-back has been discontinued and our sincere thanks must go to Brian 6V for persisting so long against such long odds. Looking for the silver lining, we must consider ourselves rather lucky that natural disasters are not so prevalent in this state as they are elsewhere. Should disaster threaten I feel certain that Hams in this state will, if permitted, acquit themselves just as creditably as they have in the past.

Is this a sign of things to come, or just the impolite brush-off? Heard recently on the

band: "—sorry, O.M., but my receiver does not handle a.m." Sounds like a serious malfunction of the half lattice germanium whistles to me.

One fellow who successfully combines business with pleasure is Eric 6VM, who has very recently contrived to fit some 2000 miles into his wagon, and waggles a whip on the rear end also. When circumstances (jobs, that is) permit, his jobs in Victoria will be done on 40 metres each Wednesday. As a bonus, he has also influenced his offside, Hank, to become interested in Ham radio. It was good to see them both at a recent meeting, too.

Heartiest congratulations to those successful candidates at the last A.O.C.P. exam—good work, O.M., those who were just a little unlucky, don't go cold on the project, imagining that you are a Robinson Crusoe. Many have been in a similar position and there will be many more in the future. Keep on slugging, the end result will be well worth while, believe me.

Saw Len 6LS at the recent Australian Post Office electronics exhibition, put the swed public in possession of some of the secrets of telecommunication. Couldn't get near enough to see his video-taped interview, but his modulation was loud and clear. See you in the R.D. Len, I hope.

The Christmas Island boys were not favoured by over-good conditions during their recent week-end Ham Fest, but operator Allan certainly got to a beautiful, sunny, I mean gorgeous, country, and a couple of VK6s, a couple of ZLs managed to get into the act and some of Ceremonies Bob 6BE was kept pretty busy.

I understand that that small cloud of dust on the horizon near Wubin was caused when Col 6WJ forcibly ejected a family of red-back spiders and sundry pests in order to fire up his rig on 40. Just getting ready for the you-know-what in August! By the way, where is brother Ray 6WU? We've missed you from the Schools' Broadcast (Wednesday sked to the uninitiated) O.M.

Quite a number of new calls appearing on the 52 Mc. f.m. nets, so my spies inform me. This fact of Ham activities is one which has received quite a lot of adverse criticism from quarters, its opponents claiming that going on the breeze with a converted two-way is where Ham radio is at with many fellows. Another school of thought is that at least they are on the air and not just inactive holding down a call sign by simply paying a note. What do you think?

By the time you read these notices, Lionel 6LM should have commenced his second issue of the loud service log. Previous holders are any guide, listen for him operating portable as well as from his home QTH.

Well, happy listening columns, see you further down the log. 73, Ross VK6DA.

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